Listing of Claims

1. (Currently Amended) An apparatus for performing a picture-in-picture (PIP) in a display device, the apparatus comprising:

a first video processor converting a first video signal into data representing a displayable main picture;

a second video processor converting a second video signal into data representing a displayable sub-picture; and

a microcomputer for displaying a sub-picture setting menu in response to a PIP mode selection, the menu including a plurality of selectable options, said microcomputer controlling the first video processor and the second video processor[[,]] so that at least one of the main picture data or the sub-picture data is at least partially outputted in accordance with a shape of the sub-picture determined by a user performing a sub-picture setting from the displayed menu, wherein the sub-picture shape is defined by pixel information for forming a non-rectangular geometric shape and wherein the pixel information is set by the sub-picture setting.

2. (Canceled)

3. (Currently Amended) The apparatus according to claim 1 [[2]], wherein the sub-picture setting menu includes a plurality of selectable sample shapes.

4. (Original) The apparatus according to claim 3, wherein the sub-picture setting menu further includes a selectable option for creating and adding new sub-picture sample shapes based on the user's preference.

5. (Currently Amended) The apparatus according to claim 1, wherein the sub-picture setting menu includes a plurality of selectable options for controlling a size and a position of the sub-picture, a number of the sub-picture data and an emphasis ratio of the sub-picture data to the main picture data, and for adding a PIP setting in accordance with selected options..

6. (Canceled)

7. (Currently Amended) The apparatus according to claim 1, wherein the microcomputer controls the first video processor, using the pixel information, so as to output a portion of the main picture data corresponding to an area of the screen excluding the sub-picture shape selected or modified by the user.

8. (Currently Amended) The apparatus according to claim 1, wherein the microcomputer controls the second video processor, using the pixel information, so as to selectively output a portion of the sub-picture data corresponding to the sub-picture shape selected or modified by the user.

9. (Currently Amended) The apparatus according to claim 1, further comprising:

a multiplexer for combining the main picture data and the sub-picture data and for controlling an emphasis ratio ~~ration~~ of the sub-picture to the main picture in accordance with a control of the microcomputer.

10. (Original) The apparatus according to claim 1, further comprising: a first memory storing the first video signal; and a second memory storing the second video signal.

11. (Currently Amended) A method for performing a picture-in-picture (PIP) in a display device, the method comprising:

displaying a sub-picture setting menu in response to a PIP mode selection, the menu including a plurality of selectable options;

selecting or modifying a sub-picture shape determined by a user performing a sub-picture setting by selecting from the displayed menu;

converting a first video signal and a second video signal into data representing a main picture and data representing a sub-picture, respectively; outputting at least one of the main picture data and the sub-picture data partially depending upon the sub-picture shape selected or modified by the user; and

combining the outputted main picture data and sub-picture data, wherein the sub-picture shape is defined by pixel information for forming a non-rectangular shape and wherein the pixel information is set by the sub-picture setting.

12. (Canceled)

13. (Currently Amended) The method according to claim 11 [[12]], wherein the user selects any one of a plurality of sub-picture sample shapes included in the sub-picture setting menu.

14. (Currently Amended) The method according to claim 11 [[12]], wherein the user modifies a pixel information of the sub-picture from the sub-picture setting menu, so as to modify a shape of the sub-picture.

15. (Currently Amended) The method according to claim 11, wherein the sub-picture setting menu includes a plurality of selectable options for controlling a size and a position of the sub-picture, a number of the sub-picture data, and an emphasis ratio of the sub-picture data to the main picture data, and for adding a PIP setting in accordance with selection options.

16. (Currently Amended) The method of claim 11, wherein [[the]] outputting at least one of the main picture data or ~~and~~ the sub-picture data comprises:

selectively outputting a portion of the main picture data corresponding to an area of the screen excluding the selected or modified sub-picture shape; and

outputting the sub-picture data entirely, wherein the main picture data is manipulated so that only the main picture is displayed in an area of the screen excluding the selected for modified sub-picture shape, by controlling an emphasis ratio of the sub-picture to the main picture.

17. (Currently Amended) The method of claim 11, wherein [[the]] outputting at least one of the main picture data or ~~and~~ the sub-picture data comprises:

selectively outputting a portion of the sub-picture data corresponding to the selected or modified sub-picture shape; and

outputting he main picture data entirely, wherein the sub-picture data is manipulat4ed so that only the main picture is displayed in an area of the screen excluding the selected or modified sub-picture shape, by overlapping the main picture with the sub-picture only in the area of the screen excluding the selected for modified sub-picture shape.

18. (Currently Amended) The method according to claim 11, wherein the outputting at least one of the main picture data or ~~and~~ the sub-picture data comprises:

selectively outputting, based on the pixel information, a portion of the main picture data corresponding to an area of the screen excluding the selected or modified sub-picture shape; and

selectively outputting, based on the pixel information, a portion of the sub-picture data corresponding to the selected or modified sub-picture shape~~, simultaneously~~.

19. (Canceled)

20. (Canceled)

21. (Currently Amended) The apparatus according to claim 1 [[20]], wherein the non-rectangular geometric shape is one of a heart, a diamond, a circle, or a triangle.

22. (Currently Amended) The apparatus according to claim 1 [[20]], wherein the non-rectangular geometric shape is a new shape created by the user.

23. (Currently Amended) The apparatus according to claim 22, wherein said new shape being different from information indicating a predetermined shape is stored in the display device.

24. (Previously Presented) The apparatus according to claim 22, wherein the microcomputer:

receives information from the user setting a position of one or more angular points of the new shape; and

outputs at least a portion of the sub-picture data based on the one or more angular points set by the user.

25. (Previously Presented) The apparatus according to claim 22, wherein the microcomputer rotates an orientation of a shape pre-stored in the display device to be used in outputting at least a portion of the sub-picture data.

26. (Previously Presented) The apparatus according to claim 22, wherein the microcomputer:

receives information from the user modifying information indicative of a pre-stored shape to be used in outputting at least a portion of the sub-picture data, wherein said modification includes rotating an orientation of the pre-stored shape.

27. (Previously Presented) The apparatus according to claim 22, wherein the microcomputer: receives information from the user modifying information indicative of a pre-stored shape to be used in outputting at least a portion of the sub-picture data, wherein said information is pixel information.

28. (Previously Presented) The apparatus according to claim 27, wherein the pixel information includes one or more pixel addresses set by the user.

29. (Previously Presented) The apparatus according to claim 22, further comprising:

a memory to store information indicative of the new shape created by the user.

30. (Previously Presented) The apparatus according to claim 29, wherein the microcomputer displays information indicative of the new shape created by the user in a menu with information indicative of other shapes.

31. (Previously Presented) The apparatus according to claim 1, wherein the microcomputer:

receives information from the user indicating a number of sub-picture data to be output in separate screen areas of the display device with the main picture, wherein said number is greater than or equal to two and wherein the sub-picture data output in each of the screen areas corresponds to different video information.

32. (Previously Presented) The apparatus according to claim 1, wherein the microcomputer:

outputs the sub-picture data in a first screen area having a first shape,

wherein the first screen area is included in a second screen area having a second shape different from the first shape, the main picture data at least partially output outside of the second screen area.

33. (Previously Presented) The apparatus according to claim 32, wherein the first shape corresponds to the shape of the sub-picture determined by the user.

34. (Previously Presented) The apparatus according to claim 1, wherein the microcomputer:

outputs the sub-picture data in a first screen area having a first shape,

wherein the first screen area is included in a second screen area having a second shape different from the first shape, the main picture data at least partially output between the first and second screen areas and also outside of the second screen area.

35. (Previously Presented) The apparatus according to claim 34, wherein the first shape corresponds to the shape of the sub-picture determined by the user.

36. (New) A method for performing a picture-in-picture (PIP) function in a display device, the method comprising:

displaying a sub-picture setting menu in response to a PIP mode selection, the menu including a plurality of selectable options;

selecting or modifying a sub-picture shape determined by a user performing a sub-picture setting by selecting from the displayed menu, the sub-picture shape defined by pixel information for forming a non-rectangular geometric shape, the pixel information being set by the sub-picture setting;

converting a first video signal and a second video signal into data representing a main picture and data representing a sub-picture, respectively; and

outputting, based on a predetermined PIP display mode, at least one of the main picture data and the sub-picture data partially depending upon the sub-picture shape selected or modified by the user, wherein the predetermined PIP display mode is one of a first mode, a second mode, or a third mode.,

wherein, in the first mode, outputting at least one of the main picture data or the sub-picture data comprises:

selectively outputting a portion of the main picture data corresponding to an area of the screen excluding the selected or modified sub-picture shape; and

outputting the sub-picture data entirely,

wherein the main picture data is manipulated so that only the main picture is displayed in the area of the screen excluding the selected or modified sub-picture shape, by controlling an emphasis ratio of the sub-picture to the main picture,

wherein, in the second mode, outputting at least one of the main picture data or the sub-picture data comprises:

selectively outputting a portion of the sub-picture data corresponding to the selected or modified sub-picture shape; and

outputting the main picture data entirely,

wherein the sub-picture data is manipulated so that only the main picture data is displayed in an area of the screen excluding the selected or modified sub-picture shape, by overlapping the main picture with the sub-picture only in the area of the screen excluding the selected or modified sub-picture shape; and

wherein, in the third mode, outputting at least one of the main picture data or the sub-picture data comprises:

selectively outputting, based on the pixel information, a portion of the main picture data corresponding to an area of the screen excluding the selected or modified sub-picture shape; and

selectively outputting, based on the pixel information, a portion of the sub-picture data corresponding to the selected or modified sub-picture shape.